

# Colonoscopy

The Procedure Explained

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如有需要,本传单可提供其他语言/版式 此單張的其他語言/格式版本可按要求提供 Na żądanie ta ulotka może zostać udostępniona w innych językach/formatach.

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#### Introduction

You have been advised by your GP or hospital doctor to have an investigation known as a colonoscopy. This is an examination of your large bowel (colon).

This procedure requires your formal consent and this booklet has been written to enable you to make an informed decision in relation to agreeing to the investigation.

If you are unable to keep your appointment, please notify the department as soon as possible, we will be able to arrange another date and time for you.

#### **Reasons for and Benefits of the Procedure**

# Why do I need to have a colonoscopy?

You may have been advised to undergo this investigation of your large bowel to:

- Try and find the cause for your symptoms, help with treatment, and if necessary, to decide on further investigation.
- Follow-up previous disease
- Assess the clinical importance of an abnormality seen on an x-ray or scan

#### What is the alternative?

A CT Colonogram is an alternative investigation to a colonoscopy.

It has the disadvantage that samples of the bowel cannot be taken if an abnormality is found. If this is the case a subsequent endoscopic examination may be required.

	e procedure. However, y or so. diabetes specialist. r emergency advice. bank holidays.	Continue usual basal rates and start bolus once normal diet started
Resume your normal insulin with your evening meal.	s the morning after the ner than usual for a da r advice contact your o 4 646200 - option 5 for 0-1600 weekends and	Continue usual basal rates and start to bolus once normal diet started
	ou should resume taking your normal tablets the morning after the procedure. However, your blood glucose may be higher than usual for a day or so.  If you have any problems or require further advice contact your diabetes specialist.  If you are a St Helens resident, contact 01744 646200 - option 5 for emergency advice.  available 0800-2200 weekdays and 0800-1600 weekends and bank holidays.	Continue usual basal rates, if having hypoglycaemic episodes set temporary basal rate of 80%, bolus based on carbohydrate content of replacement fluids
	You should resume tak your bloo If you have any prok If you are a St Helens available 0800-2	Insulin Pump

# How to adjust my insulin before a Colonoscopy

Insulins	Day before the procedure	Time of Procedure:	rocedure:
	Monitor your blood glucose 4 times a day or if you feel	Morning appointment	Afternoon appointment
3,4, or 5 injections  daily  (eg. an injection of mixed insulin 3 time aday or 3 meal time injections of short acting insulin and once or twice daily background)	Reduce dose of short acting and mixed insulins by 50% If carb counting, use the carbohydrate content of replacement fluids and calculate dose Reduce long acting Insulin dose by 20%	Omit your morning dose of short acting insulin if no breakfast is eaten.  If you normally take a long acting basal in sulin in the morning you should take 80% of your normally take a pre-mixed insulin the dose should be halved.  Omit your lunchtime dose.	Take usual morning insulin dose if breakfast is eaten. Omit lunchtime dose. Your blood glucose will be checked on admission. Resume your normal insulin with your evening meal.

# What is a colonoscopy?

This test is a very accurate way of looking at the lining of your large bowel (colon), to establish whether there is any disease present.

This test also allows us to take tissue samples (biopsy) for analysis by the pathology department if necessary.

The instrument used in this investigation is called a colonoscope, (scope) and is a flexible tube. It enables light to be directed onto the lining of your bowel and relays pictures back onto a television screen.

During the investigation the endoscopist may need to take some samples from the lining of your colon for analysis: this is painless.

The samples will be retained. Photographs may be taken for your records.

# What about my medication?

#### **Routine Medication**

If you have not received specific advice regarding these medications then you should continue to take them as normal. It would be helpful to bring a list of your current medications.

# Iron supplements and anti-diarrhea medications

Iron tablets must be stopped one week prior to your appointment.

If you are taking stool bulking agents (e.g. Fybogel, Regulan, Procto-fibe), Loperamide (Imodium), Lomotil or Codeine Phosphate you must stop these three days prior to your appointment.

#### **Diabetics**

If you are diabetic controlled on insulin or medication, please ensure the Endoscopy Department is aware so that the appointment can be made at the beginning of the list. Please see the guidelines printed at the back of the book.

## **Anticoagulants and Anti-platelet therapy**

Please telephone the unit (01744 646231 between 9-10am or 2-3pm) if you are taking any anticoagulants (blood thinning medication) e.g. warfarin, dabigatran, apixaban or rivaroxaban or edoxaban.

Please stop Clopidogrel / Ticagrelor for 7 days prior to this test. If you have had a coronary stent inserted in the past 12 months please contact the unit.

# Preparing for the investigation

# **Oral bowel Cleansing Solutions ('bowel prep')**

You have been prescribed an oral bowel cleansing solution (sometimes also called a 'bowel prep') to clear out your bowels. This is important to ensure the safety and effectiveness of the planned procedure. Diarrhoea is an expected outcome of treatment. Please ensure that you have ready access to a toilet at all times following taking the oral bowel preparation before the effects wear off.

Some common side effects of oral bowel preparation include nausea, vomiting, bloating and abdominal pain. There is also a risk of developing dehydration, low blood pressure or kidney problems with this medication. The clinician prescribing the oral bowel cleansing solution will have assessed your risk and identified the most appropriate medication for you.

The prescribed dose of oral bowel cleansing solution should not be exceeded.

Halve your usual dose Your blood glucose will Resume your normal insulin with your evening meal admission Halve your usual dose Your blood glucose will insulin with your be checked on evening meal admission morning and 16 units in Reduce dose by 50% units and 8units eg. Novomix 30<sup>®</sup>, Humulin M3<sup>®</sup>, Humalog Mix 25<sup>®</sup> Humalog Mix 50<sup>®</sup> nsuman comb 5 Twice daily

You should resume taking your normal tablets the morning after the procedure. However,

If you are a St Helens resident, contact 01744 646200 - option 5 for emergency advice.

available 0800-2200 weekdays and 0800-1600 weekends and bank holidays

If you have any problems or require further advice contact your diabetes specialist.

your blood glucose may be higher than usual for a day or so.

# How to adjust my insulin before a Colonoscopy

The oral bowel cleansing solution should not be taken over a period of longer than 24 hours.

Oral bowel cleansing solutions predispose to dehydration. You should maintain a good fluid intake whilst taking these medications, ideally in the form of water. If you develop symptoms of dehydration, and cannot increase your fluid intake, then you should seek medical attention. These symptoms include dizziness or light-headedness (particularly on standing up), thirst or a reduced urine production.

Some medicines may need to be stopped around the time of your procedure. Your doctor will review your medication at the time they refer you for an investigation and will inform you if you need to temporarily stop taking any of your usual medicines. The medications your doctor may consider stopping are in the following groups; NSAIDs (anti-inflammatory), ACE inhibitors (for heart or blood pressure problems) and diuretics ('water tablets').

If you have not received specific advice regarding your regular medications then you should continue to take them as normal.

Patients taking immunosuppression medication will be given advice from their doctor before taking any bowel prep. If you are taking the oral contraceptive pill you will need to use additional precautions in the following week as the absorption of the pill may be affected.

# **Eating and drinking**

It is necessary to have clear views of the lower bowel.

Therefore for 2 days before your appointment you will need to be on a low fibre diet and considerably increase your fluid intake.

#### **Low Fibre Diet**

Fibre is the indigestible part of cereals, fruit and vegetables.

Foods allowed	Foods to be avoided
White meat, skinless chicken, grilled or poached fish	Red meat, sausages, black/ white pudding and pies
Cheese, eggs, tofu	Fruit / Salad / Vegetables
Plain ice-cream, custard, jelly	Potato skins or chips
(NO red or blackcurrant jelly),	Wholemeal or granary bread
Boiled sweets	Wholemeal pasta, brown rice
Butter, margarine, shredless marmalade or seedless jam	Nuts & pulses, including baked beans
White bread, pasta, rice, boiled or mashed potatoes (NO skins)	Puddings containing fruit or nuts
Clear soups	Cakes
Water, fizzy drinks, fruit	Biscuits
squash (NOT blackcurrant)	Yoghurts
Tea or coffee (without milk)	Breakfast cereal

Please follow the instructions on when to stop eating and drinking during your bowel preparation. If you have been prescribed a bowel preparation other than Plenvu, please follow the alternative instructions given.

You should resume taking your normal tablets the morning after the procedure.

have any problems or require further advice contact your diabetes specialist.

However, your blood glucose may be higher than usual for a day or so.

If you are a St Helens resident, contact 01744 646200 - option 5 for emergency advice (available 0800-2200 weekdays and 0800-1600 weekends and bank holidays

Tablets	Day before the	Time o	Time of Procedure:
	procedure	Morning Appointment	Afternoon Appointment
DPP-IV inhibitors (eg. sitagliptin, saxagliptin, vildagliptin, alogliptin, linagliptin,	Take at breakfast time	Take as normal after procedure	Restart after procedure
GLP-1 analogue (eg. exenatide, liraglutide, lixisenatide)	Omit medication	Take as normal after procedure	Omit
SGLT-2 inhibitors (eg. dapagliflozin, canagliflozin, empagliflozin)	Omit medication	Take as normal after procedure	Omit

#### How do I take the Plenvu?

- Each box of Plenvu contains three sachets marked DOSE 1 and DOSE 2 (Sachet A + B).
- Open the sachet labelled DOSE 1. Empty the contents into a container. Add 500ml of water (not chilled). Stir until dissolved. This may take up to 8 minutes.
- Drink the contents of the container over 30 minutes followed by 500ml of clear fluid over 30 minutes.
- Acceptable clear fluids are water, diluted cordials (not blackcurrant), herbal tea, black tea or coffee.
- When you are due to take DOSE 2 open sachets A + B. Empty the contents in to a container. Add 500ml of water and stir until dissolved. As above this can take up to 8 minutes.
- Drink the contents over 30 minutes followed by 500ml of clear fluid over 30 minutes.
- If you are taking an oral medication take it an hour either side of your dose of preparation.

#### When do I take my bowel preparation?

# For a morning appointment:

# On the day before your examination

Following breakfast, even if you feel hungry do not have anything to eat after 9am, because your bowel must be completely empty for the examination. You can have clear fluids e.g. water, soft drinks (without bits but not blackcurrant juice), sieved soup, or black coffee or tea (without milk). Add sugar if you like. You should take the whole dose of Plenvu the day before your examination.

#### 5pm

Make up your first dose of 500ml of Plenvu and drink it over 1-2 hours. Have a rest for 2 hours. You will experience increasingly watery stools, this is normal, so ensure you can get to a toilet easily.

It is important to drink an additional 500ml of water or clear fluids with each dose of Plenvu during the evening.

#### 8-9pm

Make up the second dose of 500ml of Plenvu and drink it over 1-2 hours.

It is important to drink an additional 500ml of water or clear fluids with each dose of Plenvu during the evening.

Allow 2 hours for the Plenvu to work after finishing the second dose.

You can go to bed when you stop going to the toilet (around 11pm)

Don't forget, do not eat solid food but you can continue to drink clear fluids until 2 hours before your appointment.

# For an afternoon appointment

On the day before your examination

After lunch do not have anything to eat after 1pm because your bowel must be completely empty for the examination. You can have clear fluids e.g. water, soft drinks (without bits but not blackcurrant juice), sieved soup or black coffee or tea (without milk). Add sugar if you like.

If taken three times a day – omit your morning and lunchtime doses and take evening dose after procedure	If taken once a day in the morning – omit this dose If taken twice a day – omit both doses	Restart after procedure
If taken three times a day – omit your breakfast dose	If taken once a day in the morning – omit this dose If taken twice a day – omit the morning dose	Take as normal after procedure
	Omit medication	Take at breakfast time
	Sulphonylureas  (eg. libenclamide, glipizide, gliclazide/ gliclazide MR, glimepiride, gliqui- done)	Thiazolidinediones (eg. pioglitazone)

Tablets	Day before the	Time o	Time of Procedure:
	procedure	Morning Appointment	Afternoon Appointment
Acarbose	Omit medication	Omit morning dose if you have been told to fast from midnight	Omit morning and lunch time doses and restart from next dose after procedure
Meglitinide (eg. repaglinide or nateglinide)	Omit medication	Omit morning dose if you have been told to fast from midnight	Take your morning dose if eating breakfast.  Do not take your lunchtime dose
Metformin / Glucophage MR	Omit medication after breakfast dose	If taken once a day – take after procedure If taken twice a day – take first dose after the procedure	If taken once a day – take after procedure If taken twice a day – omit morning dose and take evening dose after procedure

#### 7pm

Make up the first dose of 500ml of Plenvu and drink it over 1-2 hours. You will experience increasingly watery stools, this is normal, so ensure you can get to a toilet easily.

It is important to drink an additional 500ml of water or clear fluids during the evening.

Allow 2 hours for the Plenvu to work after finishing the first dose. When you are no longer experiencing watery stools go to bed as usual.

#### The morning of your examination

Don't forget do not eat solid food but continue to drink clear fluids until 2 hours before your appointment.

#### 6am

Make up the second dose of 500ml of Plenvu and drink it over 1-2 hours.

When you have finished this allow 2 hours for the Plenvu to work. Again you will experience increasingly watery stools, this is normal.

It is important to drink an additional 500ml of water or clear fluids during the morning.

When you are no longer experiencing watery stools, start your journey to the hospital for your appointment.

# What happens when I arrive?

You should expect to be in the department for approximately three hours. The department also looks after emergencies and these can take priority over our outpatient lists.

You will be met by a healthcare professional who will ask you a few questions, one of which concerns your arrangements for getting home. You will also be able to ask further questions about the investigation.

You will have a brief medical assessment when a qualified endoscopy nurse will ask you some questions regarding your medical health to confirm that you are fit to undergo the investigation.

If you are diabetic, your blood glucose level will also be recorded. The nurse will ensure you understand the procedure and discuss any further concerns or questions you may have. As you may be having sedation, they may insert a small cannula (small plastic tube) in your arm or hand through which sedation will be administered later.

You will be asked to change into a hospital gown. You may wish to bring a dressing gown and slippers with you.

# **Sedation and Analgesia**

#### Intravenous sedation and analgesia

Sedative and painkiller (analgesic) drugs are routinely administered into a vein in your hand or arm for this procedure. They will make you lightly drowsy and relaxed but not unconscious. You will be in a state called co-operative sedation. This means that, although drowsy but not unconscious, you will still hear what is said to you and therefore will be able to follow simple instructions during the investigation. Sedation makes it unlikely that you will remember anything about the examination.

#### One day before the procedure

If your procedure is scheduled for the morning:

- Following breakfast, do not eat any food after 9AM one day before the procedure.
- Take the bowel preparation as instructed. Usually two doses taken on the evening before the procedure.

Take additional clear fluid, and sugary drinks such as Lucozade or clear fruit juice to maintain the blood glucose levels.

If your procedure is scheduled for the afternoon:

- Following lunch, do not eat any food after 1PM one day before the procedure.
- Take the bowel preparation as instructed. Usually one dose taken on the evening before the procedure and a second dose taken on the morning of the procedure.

# On the day of the procedure

If your procedure is scheduled for the morning:

 You may drink clear fluids such as black tea or coffee, sugar free squash or water up to 2 hours before your procedure (ie 7AM).

If your procedure is scheduled for the afternoon:

 You may drink clear fluids such as black tea or coffee, sugar free squash or water up to 2 hours before your procedure (ie 11AM).

# Important things to bring to hospital with you

- Glucose tablets or a sugary drink.
- Blood glucose testing equipment (if you usually monitor your blood glucose).
- The tablets and insulin you usually take for your diabetes.

# **Hypoglycemia Advice**

If you have any symptoms of a low blood sugar such as sweating, dizziness, blurred vision or shaking please test your blood sugar if you are able to do so.

If your blood sugar is less than 6mmol/L take 4 glucose tablets or 150ml of a sugary drink.

Please tell staff at the hospital that you have done this.

- Following your procedure you will be advised when it is safe to eat and drink.
- If you are eating and drinking normally you should resume taking your normal tablets.

Your blood glucose levels may be higher than usual for a day or so.

## **Eating and Drinking Whilst Preparing for a Colonoscopy**

#### Two days before the procedure

- Follow the low residue diet instructions on page 6.
- Take your diabetes medications and/or insulin as normal.
- Test your blood glucose levels before administering insulin.
- Try to make sure you eat your usual amounts of carbohydrate from the low residue diet sheet.

Take additional clear fluid, and sugary drinks such as Lucozade or clear fruit juice to maintain the blood glucose levels.

Whilst you are sedated, we will monitor your breathing and heart rate so changes will be noted and dealt with accordingly. For this reason you will be connected by a finger probe to a pulse oximeter which measures your oxygen levels and heart rate during the procedure. Your blood pressure may also be recorded.

If you have sedation you will not be permitted to drive home or use public transport alone, so you must arrange for a family member or friend to collect you. If you live alone, arrange for someone to stay with you, or if possible, arrange to stay with your family or a friend for about 24 hours.

Please note as you have had sedation you must not drive, take alcohol, operate heavy machinery or sign any legally binding documents for 24 hours following the procedure and you will need someone to accompany you home.

Older patients and those who have significant health problems (for example, people with significant breathing difficulties due to a bad chest) may be assessed by a doctor before being offered sedation.

#### **Entonox**

If you are unable to have intravenous sedation/analgesia, either by choice, due to your medical condition or because you have no-one to accompany you home, you may be offered Entonox.

Entonox is a gas that you may be offered to help you manage your discomfort/pain during some bowel investigations. It consists of 50% Oxygen and 50% Nitrous Oxide. Nitrous Oxide is sometimes used for anesthetics but in this combination it works as a short acting painkiller. Entonox is sometimes called 'gas and air' and is most commonly used during child birth. As Entonox is short acting it can be used as a painkiller for any treatment that requires short - term pain relief.

#### Are there any side effects?

Entonox can make you feel drowsy and a little light-headed. Other possible side effects include dizziness, nausea and a dry mouth. All these sensations disappear rapidly after you stop using Entonox.

#### How do I use it?

As part of your admission, the nurse looking after you will complete a checklist to make sure it is appropriate for you to have Entonox. You will be shown the Entonox equipment and the nurse will explain how to use it.

Please tell the nurse if you have recently had:

- Eye surgery (with gas bubble insertion)
- Head injury with impaired consciousness
- Facial injuries
- Heavy sedation
- Previous laryngectomy
- Pneumothorax (collapsed lung), lung surgery, chest drain Severe Chronic Pulmonary Disease (breathing problems)
- Extensive swelling of the abdomen or bowel obstruction (blockage
- Decompression sickness (recent dive)
- Air embolism
- Are pregnant or believe you may be pregnant

#### What can or cannot I do afterwards?

The effects should wear off quickly. However, we advise that you should be cautious about getting up and walking around until your balance has fully returned. You must wait a minimum of 30 minutes before attempting to drive or operate machinery.

This is a legal requirement and you will not be insured by your motor insurance company if you do so.

# **Guidelines for people with diabetes undergoing Colonoscopy**

# Instructions for your appointment

Please check your appointment information. Your appointment should be early morning. If not, please contact the endoscopy unit on 0151 430 1293 for an alternative appointment time.

#### **How to adjust Diabetes Treatment**

Whilst you are preparing for a Colonoscopy your diet will be different and involve a period of fasting. This means your diabetes medications may need to be adjusted.

If you take medications to control Diabetes, please follow the instructions in the table on pages 20-23:

'How to adjust my non-insulin diabetes medication before a Colonoscopy'

If you take insulin to control Diabetes, please follow the instructions in the table on page 24-27:

'How to adjust my insulin before Colonoscopy'

Please check the tables carefully. If you have any problems or require further advice contact your diabetes specialist.

If you are a St Helens resident, contact 01744 646200, select option 5 for emergency advice (available 0800-2200 weekdays and 0800-1600 weekends and bank holidays).

They will also inform you if you require further appointments. You will be given an aftercare leaflet containing instructions if you have any problems following your procedure. You can request a copy of the endoscopy report if you wish and a copy will also be sent to your GP.

If you have had sedation, the drug remains in your blood system for about 24 hours and you may feel drowsy later on, with intermittent lapses of memory. If the person collecting you leaves the department, the nursing staff will telephone them when you are ready for discharge.

#### **General points to remember**

- If you are unable to keep your appointment please notify the endoscopy unit as soon as possible.
- Please follow carefully the instructions on preparation, medications and pacemakers.
- It is our aim for you to be seen as soon as possible after your appointment time. However, there may be delays as emergencies can occur and these patients are given priority.
- If you having sedation someone needs to be available to collect you.
- The hospital cannot accept any responsibility for the loss or damage to personal property during your time on these premises.

# **Frequently Asked Questions (FAQs)**

Hopefully this leaflet has answered all your questions. Our website does have further information and includes a number of questions asked by other patients.

# Are there any benefits of using Entonox?

- 1. You will be in control.
- 2. The pain relief effects are rapid.
- 3. There are no long lasting side effects

## Are there any risks of using Entonox?

There is minimal risk involved with the administration of Entonox. The main concern is that the gas might get trapped in the body – this is only a problem if you have specific medical conditions

# The colonoscopy investigation

In turn you will be escorted into the procedure room where the endoscopist and the nurses will introduce themselves and you will have the opportunity to ask any final questions.

The nurse looking after you will ask you to lie on your left side. They will then place the oxygen monitoring probe on your finger. The sedative/ analgesic drugs will be administered or you will be shown how to use the Entonox.

The colonoscopy involves maneuvering the colonoscope around the entire length of your large bowel. There are some bends that naturally occur in the bowel and negotiating these may be uncomfortable for a short period of time but the sedation and analgesia will minimise any discomfort. Air is gently passed into the bowel during the investigation to facilitate the passage of the colonoscope. During the procedure, samples may be taken from the lining of your bowel for analysis.

#### Risks and discomforts of the Procedure

Lower gastrointestinal endoscopy is classified as an invasive investigation and because of that it has the possibility of complications. These occur extremely infrequently; we would wish to draw your attention to them.

The clinician who has requested the test will have considered this very carefully and the risks must be compared to the benefit of having the procedure carried out.

#### **Frequent risks**

- Abdominal discomfort (2 people in every 100)
- The procedure cannot be completed (1 person in every 10)

#### Serious risks

Uncommon (1 person in every 50-1000):

- Complications of over-sedation (problems with breathing, heart rate and blood pressure, which are short lived)
- Adverse reactions to drugs or equipment
- Bleeding from biopsy site (<1 person in every 1000) or polypectomy site (2 people in every 100), possibly requiring a blood transfusion
- Perforation (1 person in every 1000) or higher (3 people in every 1000) with polypectomy, requiring surgery including possible stoma.

Rare (1 person in every 1000-10,000):

 Cardiac irregularities including heart attack & stroke, requiring admission.

Very rare:

Death (1 person in every 15,000)

## What is a polyp?

A polyp is a protrusion from the lining of the bowel. Some polyps are attached to the intestinal wall by a stalk, and look like a mushroom, whereas others are flat without a stalk. Polyps when found are generally removed or sampled by the endoscopist as they may grow and later cause problems. Flat polyps are generally a little more difficult to remove

# **Polypectomy**

Polyps may be removed using a biopsy (cupped forceps) or a snare (wire loop). An electrical current known as diathermy may be used to cauterize the polyp as it is removed.

Smaller polyps may be removed using a biopsy or a snare.

For larger polyps a snare is placed around the polyp, diathermy is then applied and the polyp is removed.

Flat polyps (without any stalk) can be removed by a procedure called EMR (Endoscopic Mucosal Resection). This involves injecting the lining of the bowel that surrounds the flat polyp. This raises the area and allows the wire loop snare to capture the polyp.

Please let us know before your procedure if you have pacemaker (PPM) or implanted defibrillator (ICd) and bring the any details about your device with you on the day of the test.

# After the procedure

You will be allowed to rest for as long as is necessary. Your blood pressure and heart rate will be recorded and if you are diabetic, your blood glucose will be monitored. Should you have underlying breathing difficulties or if your oxygen levels were low during the procedure, we will continue to monitor your breathing. Once you have recovered from the initial effects of the sedation/Entonox (which normally takes 30-60 minutes), you will be moved to a comfortable chair and offered a hot drink and biscuits.

Before you leave the department, the endoscopist or nurse will explain the findings and any medication or further investigations required.